



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/835,164	04/13/2001	Shujin Zhang	CISCO-3840	4870
7590 01/19/2005			EXAMINER	
David B. Ritchie Thelen Reid & Priest LLP P. O. Box 640640 San Jose, CA 95164-0640			PATEL, NIKETA I	
			ART UNIT	PAPER NUMBER
			2182	

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/835,164

Applicant(s)

ZHANG ET AL.

Examiner

Niketa I. Patel

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 8-12, 21-26, 29-33, 36-40, 42 and 50-51 are rejected under 35 U.S.C. 102(e) as being anticipated by Beser U.S. Patent Number: 6,189,102 (hereinafter referred to as 'Beser'.)

3. Referring to claims 1, 8, 21, 25, 29, 36, 42, 50, 51, Beser teaches a method, an apparatus and a programmable storage device for issuing or renewing a host address, comprising: retrieving a host identifier in a header of a data packet [see column 32 - lines 39-67 and column 33 - lines 1-22, 'MAC address']; matching said host identifier with a list of host identifiers [see column 32 - lines 39-67 and column 33 - lines 1-22, 'test using the authentication table']; maintaining a state of authentication for a host if a match is found, or if not matched, maintaining a

Art Unit: 2182

state of authentication for a host if a match is found, or if not matched, maintaining a state of unauthentication for said host [see column 33 - lines 9-33, 'registered', 'registration rejected']; inserting a proxy address in a relay agent address field in the data packet [see column 24 - lines 10-20, 'CM 16 functions as a standard BOOTP relay agent/DHCP Proxy', lines 29-44 and lines 51-63, 'if the first message field is zero, the second network device puts its own connection address into the first message field' and column 26 - lines 36-50]; and transmitting the data packet to an address allocation device to issue or renew said host address if said host is in a state of authentication [see abstract and column 29 - lines 31-48.]

4. **Referring to claims 2, 9, 22, 30, 37,** *Beser* teaches wherein said host identifier is a MAC address [see column 32 - lines 39-67 and column 33 - lines 1-22, 'MAC address'.]

5. **Referring to claims 3, 10, 31, 38,** *Beser* teaches further comprising storing said list of host identifiers in a memory [see column 32 - lines 53-57.]

6. **Referring to claims 4, 11, 23, 32, 39,** *Beser* teaches further comprising pairing said list of host identifiers with a host information list [see column 10 - lines 31-46 and Table 1.]

7. **Referring to claims 5, 12, 24, 33, 40,** *Beser* teaches further comprising discarding said data packet if said host is

Art Unit: 2182

in a state of unauthentication and wherein said processor is further adapted to discard said data packet if no match is found [see column 33 - lines 9-33, 'registration rejected'.]

8. **Referring to claim 26**, Beser teaches wherein said data packet further comprises a server identifier address field, said server identifier address field having said proxy address [see column 18 - lines 8-48.]

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 6, 13, 28, 34, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beser U.S. Patent Number: 6,189,102 (hereinafter referred to as 'Beser'.)

11. **Referring to claims 6, 13, 28, 34, 41**, Beser teaches a method for issuing or renewing a host address [see column 32 - lines 39-67 and column 33 - lines 1-22, 'MAC address'] however

Art Unit: 2182

does not set forth the limitation of further comprising querying an accounting device to obtain account information for said host.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it was old and well known in the computer art to get the advantage of being able to obtain account information of a host in order to determine various types of services that needs to be provided to the host. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include accounting device containing account information for the host.

12. Claims 7, 14-19, 27, 35, 43-49 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beser U.S. Patent Number: 6,189,102 (hereinafter referred to as '*Beser*') and further in view of Michael Patrick, "DHCP Relay Agent Information Option" Motorola ISG, July 30, 1997 (hereinafter referred to as "*Michael*".)

13. **Referring to claims 7, 14, 27, 35, 43,** *Beser* teaches inserting a proxy address in a relay agent address field in the data packet [see column 24 - lines 10-20, 'CM 16 functions as a standard BOOTP relay agent/DHCP Proxy', lines 29-44 and lines 51-63, 'if the first message field is zero, the second network

Art Unit: 2182

device puts its own connection address into the first message field' and column 26 - lines 36-50] however does not set forth the limitation of wherein said inserting step further comprises flagging an option 82 option in said data packet. *Michael* teaches a use of option 82 with DHCP protocol to prevent several security attacks on the operation of IP address assignment, including IP spoofing, Client ID spoofing, MAC address spoofing, and DHCP server address exhaustion [see *Michael* page 5 - paragraphs 1,2,3 and page 10 - paragraphs 2,3,4,5,6.]

One of ordinary skill in the art at the time of applicant's invention would have clearly recognized that it is quite advantageous for the system of *Beser* to implement option 82 in order to prevent several security attacks on the operation of IP address assignment, including IP spoofing, Client ID spoofing, MAC address spoofing, and DHCP server address exhaustion. It is for this reason that one of ordinary skill in the art would have been motivated to use option 82 to prevent various types of security attacks on the operation of IP address assignment.

14. **Referring to claims 15, 44, 52,** a method and an apparatus for issuing or renewing a host address, comprising: retrieving a host identifier in a header of a DHCP request packet [see column 32 - lines 39-67 and column 33 - lines 1-22, 'MAC address']; matching said host identifier with a list of host identifiers

Art Unit: 2182

[see column 32 - lines 39-67 and column 33 - lines 1-22, 'test using the authentication table']; maintaining a state of authentication for a host if a match is found, or if not matched, maintaining a state of unauthentication for said host [see column 33 - lines 9-33, 'registered', 'registration rejected']; inserting a proxy address in a relay agent address field in the data packet [see column 24 - lines 10-20, 'CM 16 functions as a standard BOOTP relay agent/DHCP Proxy', lines 29-44 and lines 51-63, 'if the first message field is zero, the second network device puts its own connection address into the first message field' and column 26 - lines 36-50]; transmitting the data packet to an address allocation device if said host is in a state of authentication [see abstract and column 29 - lines 31-48]; setting said proxy address in a server identifier address field in a DHCP offer packet having an assigned host address, said DHCP offer packet received from said address allocation device in response to said DHCP request packet [see column 18 - lines 8-48]; however does not set forth the limitation of wherein said inserting step further comprises flagging an option 82 option in said data packet. *Michael* teaches a use of option 82 with DHCP protocol to prevent several security attacks on the operation of IP address assignment, including IP spoofing, Client ID spoofing, MAC address spoofing,

Art Unit: 2182

and DHCP server address exhaustion [see *Michael* page 5 - paragraphs 1,2,3 and page 10 - paragraphs 2,3,4,5,6.]

One of ordinary skill in the art at the time of applicant's invention would have clearly recognized that it is quite advantageous for the system of *Beser* to implement option 82 in order to prevent several security attacks on the operation of IP address assignment, including IP spoofing, Client ID spoofing, MAC address spoofing, and DHCP server address exhaustion. It is for this reason that one of ordinary skill in the art would have been motivated to use option 82 to prevent various types of security attacks on the operation of IP address assignment.

15. **Referring to claims 16, 45,** *Beser* teaches wherein said host identifier is a MAC address [see column 32 - lines 39-67 and column 33 - lines 1-22, 'MAC address'.]

16. **Referring to claims 17, 46,** *Beser* teaches further comprising storing said list of host identifiers in a memory [see column 32 - lines 53-57.]

17. **Referring to claims 18, 47,** *Beser* teaches further comprising pairing said list of host identifiers with a host information list [see column 10 - lines 31-46 and Table 1.]

18. **Referring to claims 19, 48,** *Beser* teaches further comprising discarding said data packet if said host is in a

Art Unit: 2182

state of unauthentication3 [see column 33 - lines 9-33, 'registration rejected'.]

19. **Referring to claims 49**, *Beser* teaches a method for issuing or renewing a host address [see column 32 - lines 39-67 and column 33 - lines 1-22, 'MAC address'] however does not set forth the limitation of further comprising querying an accounting device to obtain account information for said host.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it was old and well known in the computer art to get the advantage of being able to obtain account information of a host in order to determine various types of services that needs to be provided to the host. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include accounting device containing account information for the host.

Response to Arguments

20. Applicant's arguments filed 11/12/2004 have been fully considered but they are not persuasive.

The applicant argues that the *Beser* reference does not disclose (1) matching said host identifier with a list of host identifiers (2) maintaining a state of authentication for a host

Art Unit: 2182

if a match is found, or if not matched, maintaining a state of unauthentication for said host and (3) transmitting the data packet to an address allocation device to issue or renew said host address if said host is in a state of authentication, at pages 14, 15, 16, 20, 22 and 24.

The Examiner respectfully disagrees with these arguments.

As per the first argument, Beser reference discloses a flow diagram (FIGS. 21A and 21B FIGS. 21A and 21B) illustrating a method 384 for authenticating network device in a data-over cable system for a preferred embodiment of the present invention. At step 386 of FIG. 21A, a DHCP 66 acknowledgment message including an IP 54 address for CPE 18 associated CM 16 is received on CMTS 12 during a DHCP 66 initialization sequence for CPE 18 (FIG. 17). At step 388, a unique identifier is determined for CPE 18. (e.g., the DHCPOFFER messages (FIG. 17) have a MAC 44 layer address for CPE 18 in DHCP 6 chaddr-field 132 (FIG. 6), which CMTS 12 stores in one or more routing tables). **In a preferred embodiment of the present invention, the unique identifier (i.e., host identifier) is a MAC 44 address for CPE 18.** However, other unique identifiers could also be used (e.g., a unique Domain Name System identifier). **At step 390, the IP 54 address and the unique identifier for CPE 18 are**

Art Unit: 2182

stored in an authentication table on CMTS 12. In a preferred embodiment of the present invention, the authentication table is a first Address Resolution Protocol table. However, other authentication tables could also be used (e.g., a Domain Name System table). At step 392, the IP 54 address for CPE 18 and a MAC 44 address for CM 16 are stored in a second Address Resolution Protocol table on CMTS 12. At step 394, the unique identifier is optionally added to the DHCP 66 acknowledge message in DHCP 66 optional-parameter-field 138 (FIG. 6). However, other DHCP 66 messages could also be used to return the unique identifier. In another embodiment of the present invention, the unique identifier is not added to the DHCP 66 acknowledgment message, but is determined from an existing DHCP 66 message field (e.g., a DHCP 66 chaddr-field 132 (FIG. 6) that contains a MAC 44 address for CPE 18). At step 396, the DHCP 66 acknowledge message is sent to CM 16. At step 398 of FIG. 21B, a registration message from CM 16 is received on CMTS 12 to register CPE 18. **The registration messages contains a second identifier and a second IP 54 address allegedly for CPE 18, and a second MAC 44 address allegedly for CM 16.** At step 400, a test is conducted to determine whether the second identifier is equal to the first unique identifier using the authentication table on CMTS 12. If the second identifier is equal to the

Art Unit: 2182

first unique identifier in the authentication table, then at step 402, a second test is conducted with a second Address Resolution Protocol table on CMTS 12 to determine whether the second IP 54 address allegedly for CPE 18 is equal to the first IP 54 address for CPE 18, and whether the second MAC 44 address allegedly for CM 16 is equal to the first MAC 44 address for CM 16. If the network addresses are equal, at step 404 CPE 18 is registered on CMTS 12. In another embodiment of the present invention, the second MAC 44 address can also be allegedly for CMTS 12 or CPE 18 [see column 32, lines 39-67 and column 33, lines 1-22] i.e., matching said host identifier with a list of host identifiers (emphasis added.)

As per the second argument, *Beser* reference discloses at step 398 of FIG. 21B, a registration message from CM 16 is received on CMTS 12 to register CPE 18. **The registration messages contains a second identifier and a second IP 54 address allegedly for CPE 18, and a second MAC 44 address allegedly for CM 16. At step 400, a test is conducted to determine whether the second identifier is equal to the first unique identifier using the authentication table on CMTS 12. If the second identifier is equal to the first unique identifier in the authentication table, then at step 402, a second test is**

Art Unit: 2182

conducted with a second Address Resolution Protocol table on CMTS 12 to determine whether the second IP 54 address allegedly for CPE 18 is equal to the first IP 54 address for CPE 18, and whether the second MAC 44 address allegedly for CM 16 is equal to the first MAC 44 address for CM 16. **If the network addresses are equal, at step 404 CPE 18 is registered on CMTS 12.** In another embodiment of the present invention, the second MAC 44 address can also be allegedly for CMTS 12 or CPE 18. **If the first unique identifier is not equal to the second identifier at step 400, registration of CPE 18 is rejected at step 406** [see column 33, lines 6-25] i.e., maintaining a state of authentication for a host if a match is found, or if not matched, maintaining a state of unauthentication for said host (emphasis added.)

As per the third argument, Beser reference discloses at FIG. 2, CM 16 includes a Dynamic Host Configuration Protocol ("DHCP") layer 66, hereinafter DHCP 66. DHCP 66 is used to provide configuration parameters to hosts on a network (e.g., an IP 54 network). DHCP 66 consists of two components: a protocol for delivering host-specific configuration parameters from a DHCP 66 server to a host and **a mechanism for allocation of network host addresses to hosts.** DHCP 66 is built on a client-

server model, where designated DHCP 66 servers allocate network host addresses and deliver configuration parameters to dynamically configured network host clients.

FIG. 6 is a block diagram illustrating a DHCP 66 message structure 108. The format of DHCP 66 messages is based on the format of BOOTstrap Protocol ("BOOTP") messages described in RFC-951 and RFC-1542 incorporated herein by reference. From a network host client's point of view, DHCP 66 is an extension of the BOOTP mechanism. This behavior allows existing BOOTP clients to interoperate with DHCP 66 servers without requiring any change to network host the clients' BOOTP initialization software. DHCP 66 provides persistent storage of network parameters for network host clients.

To capture BOOTP relay agent behavior described as part of the BOOTP specification and to allow interoperability of existing BOOTP clients with DHCP 66 servers, DHCP 66 uses a BOOTP message format. Using BOOTP relaying agents eliminates the necessity of having a DHCP 66 server on each physical network segment. DHCP 66 message structure 108 includes an operation code field 110 ("op"), a hardware address type field 112 ("htype"), a hardware address length field 114 ("hlen"), a number of hops field 116 ("hops"), a transaction identifier field 118 ("xid"), a seconds elapsed time field 120 ("secs"), a

Art Unit: 2182

flags field 122 ("flags"), a client IP address field 124 ("ciaddr"), a your IP address field 126 ("yiaddr"), a server IP address field 128 ("siaddr"), a gateway/relay agent IP address field 130 ("giaddr"), **a client hardware address field 132 ("chaddr")**, an optional server name field 134 ("sname"), a boot file name 136 ("file") and an optional parameters field 138 ("options"). Descriptions for DHCP66 message 108 fields are shown in Table 4.

TABLE 4

DCHP 66	Parameter	Description
OP 110		Message op code/message type. 1 BOOTREQUEST, 2 = BOOTREPLY.
HTYPE 112		Hardware address type(e.g., `1` = 10 Mps Ethernet).
HLEN 114		Hardware address length (e.g. `6` for 10 Mbps Ethernet).
HOPS 116		Client sets to zero, optionally used by relay-agents when booting via a relay-agent.
XID 118		Transaction ID, a random number chosen by the client, used by the client and server to associate messages and responses between a client and a server.
SECS 120		Filled in by client, seconds elapsed since client started trying to boot.
FLAGS 122		Flags including a BROADCAST bit.
CIADDR 124		Client IP address; filled in by client in DHCPREQUEST if verifying previously allocated configuration parameters.
YIADDR 126		`Your` (client) IP address.
SIADDR 128 IP		54 address of next server to use in bootstrap; returned in DHCP OFFER, DHCPACK and DHCPNAK by server.
GIADDR 130		Gateway relay agent IP 54 address,

Art Unit: 2182

CHAODR	used in booting via a relay-agent. Client hardware address (e.g., MAC 132 layer 44 address).
SNAME 134	Optional server host name, null terminated string.
FILE 136	Boot file name, terminated by a null string.
OPTIONS 138	Optional parameters.

The DHCP 66 message structure shown in FIG. 6 is used to discover IP 54 and other network host interfaces in data-over-cable system 10. **A network host client (e.g., CM 16) uses DHCP 66 to acquire or verify an IP 54 address and network parameters whenever the network parameters may have changed.** Table 5 illustrates a typical use of the DHCP 66 protocol to discover a network host interface from a network host client.

TABLE 5

1. **A network host client broadcasts a DHCPDISCOVER 66 message on its local physical subnet. The DHCPDISCOVER 66 message may include options that suggest values for a network host interface address. BOOTP relay agents may pass the message on to DHCP 66 servers not on the same physical subnet.**

2. DHCP servers may respond with a DHCP OFFER message that includes an available network address in the 'yiaddr' field (and other configuration parameters in DHCP 66 options) from a network host interface. DHCP 66 servers unicasts the DHCP OFFER

Art Unit: 2182

message to the network host client (using the DHCP/BOOTP relay agent if necessary) if possible, or may broadcast the message to a broadcast address (preferably 255.255.255.255) on the client's subnet.

3. The network host client receives one or more DHCP OFFER messages from one or more DHCP servers. The network host client may choose to wait for multiple responses.

4. The network host client chooses one DHCP server with an associated network host interface from which to request configuration parameters, based on the configuration parameters offered in the DHCP OFFER messages [see column 14, lines 25-67, column 15, lines 1-67] i.e., transmitting the data packet to an address allocation device to issue or renew said host address if said host is in a state of authentication (emphasis added.)

Furthermore, as per the applicant's request the following references are furnished to support the rejection of claims 6, 13, 28, 34, 41 and 49. The U.S. Patents granted to (1) Hejza (Patent Number: 6,577,628; see column 7, lines 45-62) and (2) Brezak, Jr. et al. (Patent Number: 6,427,209; see column 5, lines 4-31 and the abstract) teaches querying an accounting device to obtain account information for said host.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Niketa I. Patel whose telephone number is (571) 272 4156. The examiner can normally be reached on M-F 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on (571) 272 4146. The fax phone number for the

Art Unit: 2182

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NP
01/12/2005


JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100